

Claims.

1. An electrochemical energy storage device comprising at least two electrodes and an electrolyte, and a carrier material for the electrolyte being disposed between said electrodes, wherein said carrier material comprises a porous material having an inner pore structure in which a perfluorinated polyether phosphate is present.
2. The electrochemical energy storage device of claim 1, wherein the porous material is a porous fluoropolymer.
3. The electrochemical energy storage device of claim 1, wherein the inner pore structure of the porous material is coated at least partly with said perfluorinated polyether phosphate.
4. The electrochemical energy storage device of claim 1, wherein said electrolyte is KOH.
5. The electrochemical energy storage device of claim 1, wherein the porous material is expanded polytetrafluoroethylene.
6. The electrochemical energy storage device of claim 1, wherein the porous material is a PTFE copolymer.
7. The electrochemical energy storage device of claim 1, wherein the carrier material is a composite containing nano-scale ceramic.
8. The electrochemical energy storage device of claim 1, wherein the carrier material is a composite including thermoplastics.
9. The electrochemical energy storage device of claim 1, wherein the porous material has a porosity of more than 50%.
10. The electrochemical energy storage device of claim 1, wherein the porous material has a porosity of more than 70%.
11. The electrochemical energy storage device of claim 1, wherein said electrochemical energy storage device is a capacitor.
12. The electrochemical energy storage device of claim 1, wherein said electrochemical energy storage device is a battery selected from the group consisting of nickel/cadmium high rate, nickel metal hybrid, rechargeable MnO₂, Zn - MnO₂, Zn/Air, alkaline capacitors and alkaline fuel cells.
13. The electrochemical energy storage device of claim 1, wherein said electrochemical energy storage device is an alkaline capacitor.
14. The electrochemical energy storage device of claim 1, wherein said electrochemical energy storage device is an alkaline fuel cell.